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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/237,128 | 01/25/1999 | FRANK KASTENHOLZ | AGM-002 | 9585 |

26615 7590 03/26/2004

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EXAMINER

HO., DUC CHI

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2665

19

DATE MAILED: 03/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/237,128

Applicant(s)

KASTENHOLZ, FRANK

Examiner

Duc C Ho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-5, 7, 8, 10-13, 15, 16, 21-25 and 27-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-5, 7-8, 10-13, 15, 16, 21-25, and 27-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102(e) that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 3-5, 7, 8, 10-13, 15-16, 21-25, and 27-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Przygienda et al. (US 6,563,823), hereinafter referred to as Przygienda.

Regarding claim 4, Przygienda discloses multi-resolution tree for longest match address lookups.

receiving header data of a network layer packet (a forwarding device having a table shown in fig. 1, see col. 2, lines 57-59);

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selecting a first one of the storage locations based on a first set of bits contained in the header data (a first location “3”-fig. 1 of the table is inherently selected based on a first set of bits “124.” contained in the header data, see col. 2, lines 55-64); and

executing an instruction at the first selected storage location (an inherent algorithm written for the longest match rule requires further search if the prefix of the first location “3” isn’t a longest prefix);

selecting a second one of the storage locations based on the executed instruction and a second set of bits contained in the header data (a second location “2”-fig. 1 of the table is inherently selected based on a second set of bits “124.13.” contained in the header data, see col. 3, lines 1-2);

selecting a third one of the storage locations based on contents of the second selected storage location and a third set of bits contained in the header data (a third location “1”-fig. 1 of the table is inherently selected based on a third set of bits “124.13.7.” contained in the header data, see col. 2, lines 2-10).

Regarding claim 5, the packet is an IP packet, col. 2, lines 57-59.

Regarding claim 3, since the prefix in the third location is the closet match to the address “124.13.7.5”-fig. 1, the forwarding device will use the forwarding information associated with this prefix to route the packet to its next destination.

Regarding claims 10, 12, 24, and 29, these claims have similar limitations as claim 4. Therefore, they are rejected under *Przygienda* for the same reasons set forth in the rejection of claim 4.

Regarding claim 7, an inherent algorithm written for the longest match rule requires no further search if the prefix of the second location “2” is a longest prefix, and the forwarding

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device will use the forwarding information associated with this prefix to route the packet to its next destination.

Regarding claim 8, the first location "3" in the table of the forwarding device inherently includes an algorithm which is written for the longest match rule. This rule requires further search if the prefix of the first location "3" isn't a longest prefix

Regarding claim 11, the forwarding device of Przygienda may be used in a device which includes an Application Specific Integrated Circuit (ASIC), from which the searching and forwarding algorithms being stored.

Regarding claim 13, the data packets are the IP packets.

Regarding claim 15, this claim has similar limitations as claim 4. Therefore, it is rejected under Przygienda for the same reasons set forth in the rejection of claim 4. The forwarding device having the table in figure 1 inherently includes a forwarding controller.

Regarding claim 16, a processor is inherently included in the forwarding controller in the forwarding device having the table in figure 1 such that the processor's function is to provide algorithm for searching and forwarding.

Regarding claims 17, and 26, the first location "3" in the table of figure 1 is indexed by more than a byte of bits.

Regarding claim 18, the first location "3" in the table of figure 1 is indexed by more than two bytes, see col. 2, lines 4-30.

Regarding claim 21, this claim has similar limitations as claim 4. Therefore, it is rejected under Przygienda for the same reasons set forth in the rejection of claim 4. The forwarding device is inherently used in a router.

Regarding claim 22, the router used in Przygienda should have information regarding the input ports and interface structures on which IP packets arrive.

Regarding claim 23, the interface structure of the router used in Przygienda should hold algorithm for directing the forwarding device to access the first location "3" –fig. 1 of the table.

Regarding claim 25, the selected locations in the table-fig. 1 inherently contain algorithms regarding how the forwarding device either searches for the longest match prefix or to forward the packet to destination.

Regarding claim 27, the packet inherently contains a header, and the information from the header is inherently extracted.

Regarding claim 28, the data packet is the IP packet.

Regarding claim 30, an inherent algorithm written for the longest match rule requires no further search if the prefix of the second location "2" is a longest prefix, and the forwarding device will use the forwarding information associated with this prefix to route the packet to its next destination.

Regarding claim 31, an inherent algorithm written for the longest match rule requires further search if the prefix of the first location "3" isn't a longest prefix.

Response to Arguments

4. Applicant's arguments with respect to claims 3-5, 7-8, 10-13, 15, 16, 21-25, and 27-31 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc Ho whose telephone number is (703) 305-1332. The examiner can normally be reached on Monday through Friday from 7:00 am to 3:30 pm.

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If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached on (703) 308-6602.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4750

6. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA, Sixth Floor (Receptionist).

Patent Examiner



Duc Ho

03-19-04